# The Air Line Pilot

MAY, 1952

Morale and Safety---Page 2

Rain Repellent---Page 6

Kenneth Andrews

—Page 2—

# Morale and Safety:

**The following address was delivered by Mr. Kenneth Andrews, Harvard School of Business, at the Bermuda Air Safety Seminar. Says Mr. Andrews: "I have only a passenger's knowledge of aviation," yet he proceeds to point out morale factors which have affected safety in other industries, and asks if it is not possible that these same factors apply to aviation. As a pilot, what is your reply?**

As I have pointed out, I know nothing about safety engineering, and I have only a passenger's knowledge of aviation. Our work at the Harvard Business School in Human Relations qualifies me only to take what might be called the administrative approach to safety. I am interested in the problems which arise when we try to get work done in organizations of people. As specialists in aviation, you are interested in one of those problems—the achievement of even safer operation in airlines, and in smaller administrative organizations known as transport aircraft. In the next few minutes, I would like to raise some questions (I will be able to answer none) about safety as an aspect of morale and about morale as an aspect of good administration.

Now the word *morale,* so vague as to be almost meaningless, should for our purposes be defined in organizational rather than in individual terms. What I mean by morale is not quite the way an individual feels as an individual but the way an individual feels as a member of a group. All of us, of course, belong not to one group but to a great many. Within the airlines, governmental agencies, research organizations, and schools for which we work, we belong also not to one group but to many—informal groups as well as formal ones. Our feelings about our company, our organization, our department are influenced by other members of these groups. Morale, therefore, becomes for the administrator not a matter of individual psychology but a matter of group or organizational good health. If we have to have a definition, I would define morale as organizational good health, and I would ask you at once to consider whether there is any relationship between organizational good health and the occurrence of accidents.

## Operational Good Health

Are some organizations that keep aircraft in the air in better health than others? How do we know? How do we determine what organizational good health consists of? When is an organization (as opposed to an individual) sick? Is organizational ill health contagious? In order to get at these questions so that ultimately we will know something about the influence of morale upon accidents, we must make a survey of relationships. Relationships among individuals constitute organization. Organization, of course, is more than the sum of its parts. Just as a baseball team is more than nine athletes, an organization of 20 people is more than 20 individuals added together. It is 20 individuals affected by the relationships in which they work with each other.

## A Suggestion

It would be my suggestion that in whatever discussion we have time for that we look at certain selected relationships which are clearly crucial to the study of safety. The first thing that occurs to me is to look at relationships among members of crews. How is crew composition administered? As a daily pressing problem, is it or can it be administered so that the pilot of a plane is not merely a flyer but is, in fact, the plane's captain? As things are today in the services and in the airlines, is the pilot a plane commander in the sense of being the plane's chief executive as well as its most proficient technically trained individual? Is the crew which he commands a good team, a bona fide organization? Does he as a leader of that crew have anything to do with its quality? Does he have any choice of the members assigned to him? Does continuity of schedule or conflict of seniority rights allow crews to become teams? Beneath the welter of variables which influences crew composition, it seems probable that rapid interchange of individual crew members would affect the split-second coordination or ability to work together which

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W. Johnston, Editor

is demanded of a crew during emergency.

## Crew Relationships

I think none of us doubts that individual crew members are today well enough trained so that as individuals they are theoretically interchangeable. But can relationships between, for example, first officer and captain, between flight engineer and captain, between stewardess and captain be changed so easily that the team remains strong as its members are shuffled about? The administrative view of safety suggests this question: Is the average crew of a transport aircraft an effective team working under an executive? Is the captain's role defined in administrative terms? Who assigns him his duties? Has the proportion of technical to administrative duties arisen helter-skelter over the years? Is the captain supposed to do most of the work with his hands at the same time as he commands the crew and considers the comfort and safety of his passengers? Are his duties organized, and is he constantly training his people? The airlines have learned how to eliminate accident-prone individuals, but is crew composition still accident-prone?

## Second Set

The second set of organizational interconnections which raises questions is the relationship between air crews in general and the management of the organization for which they work. Involved here are the superior-subordinate relationships which in any organization prove to be very complex. The freedom with which chief executives of a crew, or first officers, may without penalty report occurrences aboard their aircraft which affect the evaluation of other crew members is a very important condition of how much management learns not only about the effectiveness of crew composition but about the relationship between crews and management. I would suggest that questions like this are pertinent. Does management know much about the relative performance of crews as teams? If so, how does it find out? Is its information censored? Is the plane commander exercising the administrative duty of reporting the progress of other crew members as they grow more proficient or make important mistakes? Does he feel he can help rather than hurt by so reporting? Are the crews *with* management or *against* management? If against management or if ill feeling is common, will the reaction of plane commanders and crew members to this ill feeling make attention to routines of flight more difficult and vulnerability to accident more likely? An index to organization morale is certainly the health of the relationships not only between crew members but between air men in general and the higher officers of the organization who direct their activities.

## Air and Ground

Thirdly, more relationships that are important are certainly those among members of ground crews and maintenance personnel. It is possible, for example, that the opinion of a mechanic of his immediate foreman may lead that mechanic not to take the extra pains in performing some routine duty which one time in ten thousand may influence mechanical failure. We are used to distinguishing between human and mechanical failure, but mechanical failures arising from maintenance are certainly human. The relationships between ground crews and management affect not only organization good health but very concretely affect the aircraft and its condition. No organization can be ill in one part without the entire organism being affected. Difficulty in the relationships already described might, therefore, produce difficulty among maintenance groups; problems arising in maintenance can also spread to other parts of the organization. An individual's willingness to take pains in the dreary routines and the unglamorous aspects of aviation may be very directly affected by what he thinks of the outfit he works for. That in turn may come down to his opinion of his immediate supervisor and to the supervisor's skill as an administrator.

## Intermanagement

The fourth and final group of relationships I should like to call attention to are intermanagement relationships, the problems of which airlines and air forces are no more exempt from than other organizations. Very highly specialized activities existing side by side in an organization often pull against each other rather than converge upon a common problem and a common objective. A score of engineering specialties, each competing for cockpit space, may fill the cockpit with instruments and gadgets. Each specialty may give the pilot something more to do without considering whether the total exceeds the capacity of any person. Traffic wants aircraft rolled out of the hangar and Maintenance wants them rolled in. The Controller tells us all we're spending too damn much money. Differences in emphasis (with sometimes bad feeling developing in the adjustment of these emphases to the total picture) make the problems in interstaff relationships. For its impact upon those who fly and the machines they fly, are these relationships fully understood by management? Is the attention of all staff specialists directed as much toward integration of specialties as toward the further development of each one? Many other questions in this area will suggest themselves to you from your own experience.

## Need of Research

Now those four areas are some of the areas of organization relationships which I think we often tend to overlook—not only in the field of air travel but in all organizations. We know that to the extent that getting a job done depends on supple relationships that

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can stand stress and endure conflict and support differences in point of view, to that extent these relationships are exceedingly important. What do we do about answering the kind of questions I have suggested?

We need research, yes, but first we need to use what research has already told us. We stand only on the threshold of this particular field—the study of relationships and the determinants of morale, but at least we know that effective communication is indispensable to organizational good health, which we are calling morale today, and that communication in organizations cannot be accomplished without good relationships.

## Communication

It is one of the truisms of present-day administration that communication in organizations consists of a free flow up as well as down. Talking to a group of mechanics, let's say, about the accomplishment of a given new operation may not constitute actual communication, not if the mechanics are not interested because in their experience the academic instructions they were given had nothing to do with the actual performance of the task or if they neither liked nor trusted the people administering the information or if it filled no need which they recognized.

Communication in this instance becomes effective only when the mechanics are persuaded to tell you why they aren't getting anything out of the talk. We know that one-way communication is not especially effective since understanding of difficult subjects cannot be achieved without discussion. Such subjects must be thrashed out in order to achieve a common understanding of the terms used and of the objectives sought and free expression of the feelings which block communication.

## One Goal

Good health in an organization does not occur unless its various members realize that they have one goal which is just as much the objective of a mechanic as of the head of the traffic department. Dissemination of the fact that there is actually one goal and realization of a genuine mutuality of interest in an organization is a two-way proposition. The ability of management to permit the lower echelons of an organization to tell it what is important is scarcely ever equal to the volume of what there is to be communicated. Communication upward precedes communication downward, for only when what is in the minds of the persons to whom the communication is being directed is known can a communication be phrased in understandable and acceptable terms. If I have some idea (as I do) of what you have been thinking about in the last two or three days, I have some chance of being understood as I describe to you what I have been thinking about. Even better, when we have a discussion, we will all find out what is on our minds and be able to clarify points which are not yet clear. Primarily, we need in every organization a recognition of the importance of communication to good morale and daily attention to the strength, durability, and soundness of the intermanagement relationships within which communication takes place.

## Management Attitude

Now all the techniques in the world —and these grow more numerous every day as well-intentioned people try to solve our organizational problems— will not take the place of the willingness to look at and assume the management attitudes basic to good relationships. What happens to any organization depends upon management's attitude toward the rights of persons in airplanes and those under airplanes and those who climb over airplanes to have and to express their feelings, especially if they seem to be derogatory to the higher management of the company. At the same time that it's often hard for those in lower echelons of an organization to accept the possibility that the management of the company is trying to run it for the company's good, so it is often harder for management to accept the importance of the feelings of men far down the organization ladder. But morale is the condition of organized feeling, and it cannot be high when large parts of an organization feel misunderstood. It is possible for various levels of management and various staff functions of management and operating people and maintenance people to understand that all are contributing to the same important objectives — organizational success and organizational good health —only when everybody is at least as willing *to listen to* as *to talk to* everybody else.

## Conclusion

You have already noted that I have not yet been very specific about dealing with the questions which are more easily raised than answered. I will have to leave more specific suggestions to you who know more than I what is practical and what is relevant. Perhaps you have already considered assigning to every accident investigation a person trained in the observation of the organizational circumstances and the organizational good health preceding and surrounding the aircraft accident. Perhaps these circumstances will prove to have nothing to do with the accident, but no area so large as the one we have been discussing should be overlooked in the search for the circumstances of the failure of an aviation organization to accomplish its mission. Every accident, no matter how minor, is a failure of organization.

Second, specific progress in considering technical improvements only as the part of a master pattern not further complicating operation is, I understand, already underway. No properly guided technical specialist, I will be glad to hope, any longer considers his particular problem and his ways of solving it without considering all the other problems and the solutions with which the pilot and the mechanic must contend. I trust that every engineer considers the impact upon people of every new proposal.

## Traditional Ways

But right now, more than new technical discoveries, no matter how well integrated into a more useful and comprehensive approach to the problem of safety, we need merely a wider and more immediate recognition of what we already know. The technical progress which all of you have contributed to has always in our society and in your industry outstripped our knowledge of the relationships I have tried to describe. The accomplishment of technical miracles unfortunately does not prevent us from foolishness in the areas of morale and human relations. Traditional ways of looking at the problem of safety must be changed for safety's sake and for the sake of organizational good health. We will have to enter very difficult and delicate areas full of sensitive people and specialized interests. But I think you already know that there is no technical substitute for organization health. You can't get the static out of communication channels even by using one of Dr. Gunn's miraculous conductors. The achievement of greater safety in aviation depends upon taking human relationships into account.

# Steel Needles:

**The Federal Communications Commission has lifted its ban on new TV stations. When new building begins, towers of some 1,200 to 2,000 feet may rise. Comments an ALPA member: ". . . steel 'needles' . . . within or immediately adjacent to airport control zones and airways, will seriously affect the safe and efficient operation of present and future air transportation."**

When the Federal Communications Commission recently lifted its freeze on the installation of television stations, a demand for approximately 2,000 assignments of channels flowed into its offices. As a result, the Aviation industry has found it necessary to ask for certain restrictions on the heights of the new towers these stations would construct. Ultra-high frequency TV transmitters require towers of some 1,200 to 2,000 feet. Obviously, constructions of such heights would be detrimental to air carrier safety.

ALPA's stand on the matter is illustrated in a recent letter from Dean Phillips, ALPA associate member of the Chicago Regional Air Space Sub-Committee, to Arthur Lybarger, Secretary of that group. Says Phillips: "Erection of steel "needles" 1,000, 1,500, and 2,000 feet above the surface, within or immediately adjacent to airport control zones and airways, will seriously affect the safe and efficient operation of present and future air transportation.

"Certainly, it is much easier to regulate the erection of man-made obstructions than it is to have them moved or knocked down after they have been built. The following suggestions are offered so that some plan can be adopted to prevent undue hardships on either the Television and Radio industry or the Air Transportation industry:

## One Tower

". . . it would be more desirable and safer for air navigation to have one tower of sufficient height to adequately serve an area with several antenae mounted thereon, than several towers of equal or nearly equal height, scattered all over the surrounding countryside. If one tower can be used by several broadcasters, the cost of erection, as well as maintenance, could be shared by those companies granted FCC licenses. Television set owners would benefit from such an installation because they could tune to one tower and not have to compromise on several locations. From a pilot's point of view, it would not be as great a hazard to have a tower located in a known area of obstruction, such as on top of a building or within the confines of a city, than to have a tower located in an area where it is the *only* major obstruction. The thought behind this being that cities are known areas of obstruction and every effort is being made to avoid operation over such conjested areas. A height limit should be established for TV and radio towers. During weather conditions which require aircraft to operate on instruments, or during periods of reduced visibility, obstruction lighting on tall towers is not sufficient warning. It would be well to begin thinking about a radio warning devise to be located at the tower site. This would serve as an obstruction warning during IFR weather conditions and during periods of low visibility when obstruction lights are not operating."

## The Future

Phillips also looked to the future: "Commercial jet aircraft will soon join the military jets now in operation and the speeds of these aircraft should serve as a guide for future planning—at 300 mph and aircraft travels 5 miles in one minute; at 600 mph an aircraft travels ten miles in one minute.

"If we keep these speeds in mind and also the probable increased volume of air traffic, it is not difficult to understand why serious thought should be given to restrictions on the erection of obstructions."

The fore-warning of a controversy between the Aviation industry and the Television industry may have been sounded in a recent editorial in Broadcasting-Telecasting magazine, the more-or-less official voice of the radio field. Commenting on a proposal made by the Aviation industry to give the FCC legislative authority to deny applicants whose towers do not comply with CAA regulations, Broadcasting - Telecasting stated: "The proposal . . . is only one facet of the aviation industry's recent campaign that has as its eventual aim the control of the nation's TV towers."

The editorial continued that: "The air belongs to the people," and that, "Over the years, the air transport people—government as well as industry—have been disposed to look with disdain upon broadcast services as in the "entertainment" field, whereas they (Aviation) describe their sphere as involving safety of life and defense."

## Recommendations

A look at the Aviation industry's recommendations concerning the erection of TV towers appears to indicate that those proposals have been selected with but one ambition—air safety—in mind. They run like this: (1) Request that Congress legislate an amendment to the Communications Act which specifically would give the FCC authority to deny applications whose antenna sites or heights are found to be air hazards. (At present, the FCC assumes this right, Aviation wants it official) (2) Requirement that all TV antennas be installed on a single tower. (3) Requirement that all TV towers be localized in city sections already considered an air hazard. (4) Requirement that the height of TV towers be limited—through FCC ruling for Congressional action. (5) Requirement that a radio warning device be installed at each antenna site. (6) Establishment of a national set of standards that all CAA regional air space subcommittees would be required to adhere to when considering TV tower applications. (7) Requirement that TV coverage be obtained through the use of booster stations so that high towers would be unnecessary.

# Rain Repellent:

## Here is a report on a rain repellent which may increase air safety by improving visibility during flight through rain storms. It is currently being tested by various air line pilot groups.

Several air lines appear to be interested in an aircraft rain-repellent which promises to be an aid to air safety by providing pilots with better visibility while operating in rain areas. ALPA's Engineering and Air Safety Department has recommended that pilot groups investigate the safety features to determine if it should be required for use on air line aircraft.

The repellent was brought to the attention of the CAA in 1948. At that time it was applied to the windshield of a C-47 with very little success, proving effective for only short periods of time. Later, however, when the repellent was applied to the windshield of a twin-engined Beech it worked well. In the latter test it was used to counteract water film on the windshield, not as a test of the product. Because of the urgency of other projects the CAA says it has not been able to run a thorough test on the product as yet.

Indicative of the beneficial effects of the repellent, however, are tests conducted by the National Research Council of Ottowa, Canada:

The repellent, which is manufactured in the form of a paste, was applied to windshields with specially cleaned and prepared cloth squares, supplied with each kit. The paste is rubbed on the outer surface of the windshield and finally polished. Three types of paste are used, a cleaner paste, a bonding agent, and a wax paste which provides the water repellent coating.

### Test Aircraft

Several types of aircraft were selected for test purposes—a Landcaster Mk2, a Meteor Mk3, a Mosquito Mk6, a Spitfire Mk9, and Mk19, Vampire, and a Fieseler Storch. The windshields of these aircraft cover a wide range of geometrical arrangements of glass. The repellent was applied to only one-half of the windshield, enabling the pilot to make a comparison between the treated and the untreated. Flights were made through light, medium, and heavy rain storms at speeds ranging from 40 to 400 mph and at altitudes up to 40,000 feet.

The Fieseler Storch provided an example of a flat windshield. The first series of tests were not very conclusive. The repellent made little difference to the standard of vision. However, after five separate applications the surface was greatly improved by the continuous polishing, and the repellent began to act. On the final two flights the repellent gave positive results and improved forward vision through the windshield. The rain drops dispersed off of the treated portions much faster than on previous flights. The range of speed was from 60 to 80 mph.

### Good Results

Three flights using the Mosquito were made under varying conditions and in all cases excellent results were obtained. The rain scattered off the parts of the shield treated with repellent and left perfect forward vision, when the visibility through the untreated portions was practically nil. Speeds up to 300 mph were obtained during these tests.

Good results were observed also from four flights of the Vampire. The rain scattered quickly from the glass. Eighty per cent improvement was achieved with this aircraft at speeds up to 400 mph.

The immediate results of the action of the repellent using the Landcaster were so conclusive after only one flight that it was not necessary to continue further tests with this type of aircraft. The improved visibility was 80 per cent greater using the repellent than on the untreated portions.

The first three flights using a Spitfire were not successful. After investigation into the cause of the negative results it was discovered that the repellent had not been applied in strict accordance with the instructions. Insufficient care had been taken to insure that the operator's hands were clean and free of oil; it was also found that the shield had not been properly polished after the use of the cleaner paste.

When the shield was thoroughly cleaned and the repellent applied correctly 80 per cent improvement was obtained.

Tests on other aircraft accomplished the same general results as those above.

### Effects of Frost

Aircraft which had been treated were left in the open overnight to check the effect of the repellent the following morning. Both treated and untreated portions were found to be coated with a milky bloom which cleared away normally when the aircraft was taxied to the runway. The time taken for the panels to clear was almost identical for both treated and untreated surfaces. It was therefore concluded that the repellent has no detrimental effects under frost conditions and likewise has no advantages to offer.

### Oil on a Treated Shield

Where oil is thrown back from an engine onto the shield during flight in rain, the treated portions were kept perfectly clear by the action of the repellent, the untreated portions became coated with a thin film of oil which spread quickly and reduced visibility.

### Conclusion

The tests determined that the repellent gives improved visibility under normal conditions on all types of aircraft. The effectiveness of the repellent in improving visibility in rain depends on the type of windshield: (1) Rain scatters off double curvature shields quicker than on most and the repellent gives negligible improvement. (2) Rain scatters off flat shields faster when treated with repellent and visibility is improved approximately 30 to 40 per cent.

### Pilot Reports

Of interest are the reports made by pilots flying the test aircraft:

"On the afternoon of 14th January, 1948, I flew Lancaster Mk. 2 D.S. 708, the windscreen (windshield) of which had been treated with "Rain Repellent" on the outer half of each of the two front panels. Light and heavy rainstorms were encountered and the difference between the treated and untreated halves of each panel was most marked.

# ICAO Memorandum

By CAPT. W. R. BELL
TCA, Montreal

## At its convention, IFALPA called for the continuous monitoring of ICAO. The following is reprinted from the April issue of THE CANADIAN AIR LINE PILOT for the information of ALPA members:

Although the International Civil Aviation Organization has been in existence for some years and most people connected with aviation know what it is, very many apparently know little about what it does and how it goes about doing it.

The first commercial air service across national borders (London-Paris) in 1919 revealed new problems and the need for an international body to solve them, and where agreement might be reached on standard procedures and methods of operation. As a result, the Paris Convention of 1919 established the International Commission for Air Navigation (ICAN), with 33 Member States.

In North America, 1927 could be chosen as the beginning of international air transport with the inauguration of a service from Florida to Cuba.

By 1939 the first trans-Atlantic service was established. During the war of 1939-1945 a wirld-wide network of air services was established, military urgency and wartime cooperation giving the impetus and overcoming political barriers, but it was obvious that solutions to many technical and political problems must be found if we were to benefit from these great advances in air transportation.

Accordingly, in November, 1944, delegates from 52 nations gathered at Chicago to see what could be done about it. The result was the Convention (meaning contract or covenant) on International Civil Aviation, now generally spoken of as the Chicago Convention. Its preamble, setting forth its aims and purposes, reads as follows:

"Whereas the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security; and

Whereas it is desirable to avoid friction and to promote that cooperation between nations and peoples upon which the peace of the world depends;

Therefore the undersigned governments having agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically; have accordingly concluded this Convention to that end."

The permanent body charged with the administration of these principles is the International Civil Aviation Organization. Its administrative and legislative organs include an Assembly of Member States and a Council composed of 21 states elected by the Assembly for a three year term.

The Chicago Convention was to be ratified by the Member States and as this was to take some time an interim agreement was drawn up which established the Provisional International Civil Aviation Organization (PICAO) with advisory powers only, to remain in existence until the permanent organization was created, the seat of this organization to be in Canada. The first interim council of PICAO met in Montreal August 15, 1945.

### Agency of U. N.

By April, 1947, a sufficent number of ratifications had been received of the Convention on International Aviation and thus ICAO came into being and in this same year became a specialized agency of the United Nations.

There are three main subsidiary bodies of ICAO: (1) air navigation; (2) air transport; and (3) legal matters.

At the present time, the recommendations for standards and recommended practices are drawn up by the ICAO technical divisions, considered by the Air Navigation Commission, then adopted by the Council and submitted to the Contracting States. If a majority of the States does not register disapproval of these standards and recommended practices, they become effective and each ICAO Contracting State is bound under the terms of the Convention either to put them into practice in accordance with the Council resolution of adoption, or to notify ICAO of any difference between any of its own practices and those established by the international standard.

By May 1, 1951, thirteen sets of standards had been adopted by the ICAO Council and had been transmitted to the Contracting States for comment. None of the first twelve was disapproved by a majority and all twelve are now in effect. Since first adoption several of these annexes have been amended in the continuous process of improvement and development.

In addition to dealing with international aviation on a world-wide basis, there are many subjects which ICAO has had to consider on a regional basis. The provisional organization has set up ten geographical regions, in each of which a particular type of flying operation predominates. For example, long range ocean flying predominates in the North Atlantic Region; the majority of operations in the European-Mediterranean Region consists of short range overland flights.

### Allied Subjects

ICAO has and is studying many allied subjects such as international mail, payment for airport and air navigation facilities, insurance, taxation, and statistics. In the field of facilitation considerable gains have been made, as follows: Firstly, time spent on the ground by aircraft has been reduced considerably through standardized procedures and by the elimination of manifests and visas for traffic in direct transit; secondly, the number of documents required for an international flight has been reduced to only a fraction of previous requirements. Thus, the utilization of aircraft is increased with greater economy to the operator and speedier transport for passengers.

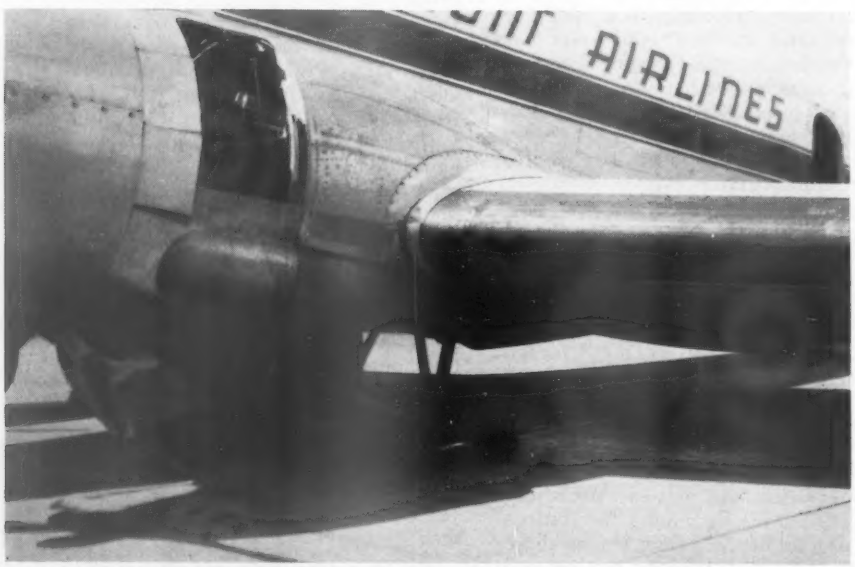
The first case of collective action concluded under the sponsorship of ICAO was the establishment of a network of thirteen ocean weather stations in the North Atlantic. We are all familiar with the "Bermuda Sky Queen" episode—a direct result.

(Continued on Page 15)

# Camera

The photographs on these pages illustrate a portion of the work of ALPA's Engineering and Air Safety Department and its Council Safety Committees. Their activities are not limited to dramatic air tragedies. Carl Eck, Headquarters, was notified last month of a landing accident at Louisville, Kentucky, involving a Piedmont Airlines DC-3. He traveled to the scene to help analyze the accident.

Captain Beverly Berkely, Jr., pilot of the stricken aircraft informed Eck that the accident concerned a structural failure. Below, a close-up of the left gear showing the failed A fitting.



Eck worked with Captain Berkely; Co-pilot T. G. Bachan; CAA agent E. L. Turner; CAB Investigator C. E. Stillwagon; Piedmont's President, Thomas Davis; Vice-President-in-charge-of-Operations, Saunders; Chief Pilot, Frank Nickelson; and members of the investigating team shown in photo at left: Capt Roy Brown, ALPA Safety Chairman, Council 121; Howard Cartwright, Superintendent of Maintenance; and A. W. Tompkins, Chief of Inspection.

The plane's path (above and right). The runway marks showing path of the broken gear. Path in photo above shows the gear drag flanked on both sides by tire marks and criss-crossed with propeller marks. Mark in upper left of photo shows path of dragging wing tip.

# News

## CAB Denies Renewal of Mid-West Airlines Certificate

The Civil Aeronautics Board has refused to renew, after June 30, 1952, the certificate authority of Mid-West Airlines. Mid-West, a local service airline, with headquarters in Omaha, Neb., operates routes to Minneapolis, Minn.; Huron, S. D.; North Platte, Neb.; Des Moines, Iowa, and other points in the general area.

The Board recognized that several communities within the area served by Mid-West could possibly be served by existing carriers, and reopened the proceeding to consider the addition of Fargo, N. D.; Norfolk, Neb.; Yankton, Mitchell and Brookings, S. D., and Austin, New Ulm, Worthington and Mankato, Minn., to Mid-Continent Airlines, and of Scottsbluff, Neb., to United Airlines.

The Board estimated that the further operation of Mid-West even with DC-3 equipment in place of single-engine aircraft would require the Federal Treasury to contribute more than $4.00 for each $1.00 of revenue provided by the users of the service. The average federal contribution to DC-3 local service operators in 1951 was approximately $1.03 to each $1.00 contributed by the users of the service.

Mid-West inaugurated service over its route in October, 1949, after the Board authorized the use of single-engine equipment. The cost to the Government of this operation in 1950 was $527,976, or about $11.00 for every $1.00 of commercial revenue.

### Purdue Owned

Control of Mid-West was recently acquired, after CAB approval, by Purdue Research Foundation which has been operating the company, and which planned to reorganize and to convert to DC-3 operations.

The Board said that while it had been demonstrated by some local service airlines that a change from small equipment to DC-3 aircraft had resulted in an increase in the volume of traffic on the routes, the evidence did not indicate that the equipment changeover would increase Mid-West's commercial revenues to the point where the cost to the Government would not be excessive. Over 50 per cent of the total route mileage of Mid-West's proposed routes involved point-to-point duplication of existing services, due to the absence of airports adequate for DC-3 equipment at many of the points proposed for service. The Board said that the amount of new DC-3 service which would be provided by the proposed route would be relatively small, that many of the points already receive service by DC-3 or better equipment.

Member Josh Lee dissented. He stated that Mid-West's experience with its single-engine operation did not constitute a reasonable test of the traffic potential of this area and that Mid-West, if given an adequate route structure, could reasonably be expected to make as good a showing as local service carriers in other sections of the country. Lee pointed out that Purdue Research Foundation can supply the carrier with the necessary funds, aircraft, and management to commence operations with DC-3 aircraft almost immediately. He also objected to the majority's decision to reopen the proceeding to determine whether 10 smaller communities should be placed on the trunkline routes of Mid-Continent and United. He pointed out that this is contrary to the Board's established policy of separating the trunks from the local service carriers.

### Time Element

Member Joseph P. Adams dissented from the majority decision primarily on the grounds that the Mid-West single-engine operation of only a little more than one year could not fairly be construed as a true local service experiment. He felt that similar short-run operations by other local service carriers, which have since been renewed and extended, showed, initially, no more favorable economic results in the public interest than those of Mid-West.

Member Adams also pointed to the serious adverse effect on the mail pay needs of the possible new Braniff-Mid-Continent system which he contends will undoubtedly result from the addition of nine small cities to the system of Mid-Continent Airlines.

## Standardization of Altimeter Measurement

The International Civil Aviation Organization (ICAO) has proposed a standardization of dimensional units used in altimetry. The proposal suggests that use of two dissimilar units of vertical measurement (feet and meters) is unsatisfactory and that the ICAO unit (meters) should be used internationally.

In replying to ICAO's proposal, a subcommittee of the Air Coordination Committee countered with a suggestion that the international measurement be made the foot: "The U. S. favors the proposal for early standardization of the foot as the unit of vertical measurement for altimetry because of preponderence of current usage and availability of instruments. Final standardization . . . must consider as a major element, availability of service proven instruments with readability, sensitivity, dependability, efficiency and initial cost equal to or superior to the standard foot altimeter in use at the time."

## Experience Requirements for Pilot Rating

An amendment to the Aeronautical Experience Requirements for an air line pilot rating has been adopted by the Civil Aeronautics Board.

Previously, Part 21 of the Civil Air Regulations provided that an applicant for such a rating must have 250 hours as pilot-in-command within eight years of the time of application. The Regulation did not permit a copilot to log time as pilot-in-command even when he was sole manipulator of the controls. Copilots who obtained some or all of their pilot time prior to the eight years preceding the date of application, or who had not obtained 250 hours as pilot-in-command during their flying careers, were prevented from obtaining a rating without undue hardship and expense.

The amendment deletes the requirement that pilot-in-command time be obtained within eight years of the time of application and permits time as copilot performing the duties and function of a command pilot to be used to fulfill the experience requirements.

The Board says the experience and training gained by copilots on transport aircraft together with flight training experience while performing the duties of a command pilot is equivalent to or greater than the present requirement for pilot-in-command experience which is often attained in small aircraft under conditions entirely unrelated to air carrier operations. The Board does not consider this amendment as a lowering of the requirements.

## Flight Analyzing Camera

**Aviation Week** (April 28) reports that a flight analyzer camera, tested

***The Air Line Pilot* welcomes comment on its editorial content**

by American Airlines, is "startlingly accurate." The purpose is to record takeoff, and in-flight and landing characteristics of aircraft. The camera set-up produces:

Glide and landing approach paths at different throttle and flap settings and various flight attitudes.

Ground speed, length of takeoff runs or landing rolls, distance to clear obstacles under various conditions of gross weight, engine power, flap settings, etc., allowing acceleration and propulsive thrust to be determined.

Actual developed lift coefficient.

Variations in attitude or altitude during speed run tests. It gives an accurate speed-space record permitting study of speed variations. Effects of wind aloft can be determined by averaging up and down wind run results.

Reversible pitch propeller deceleration as well as effective reverse thrusts.

Synchronization of flight analyzer and auto observer flight instrumentation can be accomplished by flashing a Grimes light which shows up on the plate, synchronizing time sequence on the auto observer and analyzer. A Very pistol firing a flare on to the runway serves the same purpose.

## New Radar

A new lightweight radar set that "maps" terrain and weather obstacles up to 200 miles in front of an aircraft is now in production for the Navy and Air Force.

This advance radar unit, already installed on various military air transports, is also suited for commercial aircraft, according to RCA. At the present time, however, the equipment is being produced under Navy contract for military use only and is scheduled for production under an Air Force contract.

The specifications for the new transport radar were prepared by the Navy Bureau of Aeronautics and coordinated with the Air Force to include recommendations reflecting its experience with radar.

The new unit permits the pilot to see a closeup of a selected area as if he were using a powerful telescope that could penetrate through darkness and clouds and can be used for four general types of operation:

1. As a means of collision warning. It will show mountains and in some instances aircraft in the vicinity.

2. As an accurate indicator of weather conditions. It will show the position of thunderheads and other cloud formations, and will enable the pilot to avoid turbulent weather or select the safest course through it.

## Correction

**The January, 1952 issue of The Air Line Pilot (Page 10, col. 1) incorrectly reported the actions of Captain J. M. Walker in the grievance case of Captain W. L. Noftsinger in stating that Captain Noftsinger's failure to pass the instrument check was "due to Walker's lack of understanding of the technical aspects of the problem."**

3. As a means of position location when standard landmarks are not visible. It can pick up the signal of ground based radar range units.

4. As a means of mapping terrain. Through a special discrimination circuit, it shows the pilot the salient characteristics of the land over which he is flying.

The range of the system can be selected by the pilot for distance up to 200 miles from the plane. A selector switch permits the pilot to bring into view all obstacles and terrain within 5, 10, 30, 100, and 200 nautical miles of his airplane. On a recent flight from Westover Air Force Base, Mass., to Frankfort, Germany, in a military C-97 equipped with the new radar, the first islands of the Azores were observed at a distance of 195 miles from an altitude of 17,000 feet.

The device, designed solely for navigation and obstacle and weather detection, weighs a total of 173 pounds before installation and is pressurized to operate up to altitudes of 50,000 feet. It is the first system of its kind to go into production that has both military and commercial application.

At the pilot's selection, the signal from the radar antenna can be transmitted either in the form of a pencil beam for obstacle detection and general search, or in the form of a vertical fan for mapping and navigational aid. The pencil beam, is somewhat like a flashlight with invisible rays which will show the pilot either everything ahead of his plane up to a distance of 200 miles or everything within a full circle with a 400-mile diameter. The beam can be raised or lowered to enable the pilot to measure the height of thunderheads and other clouds, or to look at the ground ahead and below his airplane.

The vertical fan position is used for navigation and shows a picture of the ground up to a distance of 200 miles head of and to either side of the aircraft.

## Regulations for Irregular Carriers

The Civil Aeronautics Board and the Civil Aeronautics Administration has jointly announced a program involving more stringent CAB regulations governing training and proficiency checks for pilots of all air carriers operating under Part 42 of the Civil Air Regulations. This category includes the large irregular carriers, certificated freight carriers, off-route operations of certain of the certificated carriers, and others.

The new civil air regulations will take effect in the immediate future. The Board indicated, however, that further consideration would be given to the regulations before they were made permanent.

The regulations provide for the designation by each carrier of a chief pilot responsible for assuring the proficiency of all pilots utilized, and of an adequate number of check pilots acceptable to the CAA. They prohibit use of pilots unless within the preceding six months these pilots, in addition to present requirements, have passed a written examination on the company's operations manual and on all types of instrument approach and navigational facilities and procedures to be used.

## Comet Flight

The Comet, first jet airliner in scheduled service, took off from London May 2 on its inaugural flight to Johannesburg, South Africa. Statistics: 36 passengers, 6 man crew, 30 bags of mail; 6,724-mile flight in 17 hours 16 minutes flying time, 23 hours 38 minutes elapsed time.

Comet will fly the route weekly until June 1. After then the schedule will be three times weekly.

## AAL Convair Crash

CAB reports that the cause of the crash of an American Airlines Convair crash at Elizabeth, N. J., January 22, 1952, will probably remain unknown.

Accident investigators reported that the flight appeared normal until the last moments. The final position of the plane indicated an abrupt turn 40 degrees right and a rapid descent.

## Automatic Aid

In a few weeks, a pilot of one of British Overseas Airways Corporation's jet airliners will fly seven miles high over Europe and Africa to test an additional navigation aid which will show him, on a small clock-face, the exact distance and bearing of his next port of call. If the tests are successful, the

aid will be adopted on all BOAC's Comets.

The aid is a small airborne electronic device which makes contact with airfield ground beacons along the route.

It is a development of a wartime device used by secret agents, who planted electronic beacons to guide aircraft to enemy targets.

Signals from the aircraft are picked up by the beacon and an automatic "reply" radioed back. The equipment in the aircraft measures the time this high-frequency reply takes to travel, and automatically registers on a dial the distance it must have come and its bearing. It is accurate to half a mile or less.

It has a range of up to 200 miles, which means that 20 minutes from the airfield, the pilot can switch it on and instantly get an accurate and continuous record of distance and direction to go.

He will then be able to make an accurate calculation of the best possible path of descent, after taking windspeed into account, so that he will come in to land without burning up a gallon of unnecessary fuel by flying at low altitude.

## Guggenheim Report

"Measurable progress was made in 1951 in research on aviation safety," reports the Daniel and Florence Guggenheim Aviation Safety Center at Cornell University in its progress study on last year.

The study continues: "The magnitude and . . . complexity of the task before us, however, is shown by the fact that in 1951 the accident rate in scheduled domestic air transport was only as good as in 1949, and was slightly poorer than 1950 (see table 1)."

Under a heading of "1951 Accomplishments" the report stated:

### Improved Pilot and Crew Training

The use of flight simulators has been widely accepted to expedite training, especially for crew coordination and emergency procedures. Studies by the Air Force, Navy and CAA contributed to this practice, while Curtiss-Wright and Pan American developed the use of simulators in training for airline operation. Procurement of the simulators prior to receipt of the aircraft would be desirable. Furthermore, arrangements should be made to supply simulators to airlines receiving new types of aircraft. This could be accomplished by rental agreements, in order to reduce the high cost of such equipment to the smaller airlines. Simulator expense is a small item compared to the cost of a single major accident on an airline.

### Studies of Pilots' Environment

A number of projects are under way to improve the working conditions for the pilot and crew, in order that they may operate more efficiently, be alert, and be able to control emergencies when they occur. These projects are examples of human engineering. One project measures visibility from the pilots seat by means of a panoram camera and superimposed grid pattern. Another project is an adjustable cockpit mock-up in which the position of any control can be duplicated, and the pilots' ability to push, pull, or turn the control measured accurately. Studies of air circulation, heater efficiency and humidity are being conducted by certain manufacturers and airlines. "Functionalization" of cockpit controls, in place of standardization, is being advanced by the Armed Services, the CAA and CAB. Functionalization consists of placing the instruments and controls in the most efficient locations, based on studies of human capacity and reactions.

### Anti-Collision Devices

United Airlines is encouraging the development of a high-intensity flashing white light for anti-collision purposes in daylight conditions, and is testing a flashing red light located in the fin, for night visual flying. CAA is evaluating other forms of flashing lights, and several airlines are adopting TWA's interim measure of a large red "passing" light in the nose of the airplane. Cornell is developing a collision warning device using CW and Doppler radar principles. Use of airborne radar equipment, coupled with ground radar monitored by Air Traffic Control personnel, promises to be the most practical solution. Airlines are studying cockpit organization to improve the "collision watch."

### Statistical Studies on Accident Probabilities and Prevention

Progress has been made in the application of statistical studies in engineering design and operating problems. Descriptive statistics have been used for many years in presenting accident data, for example, the number of accidents due to power plant failure, personnel error, etc. However, mathematical statistics based on the laws of probability are beginning to be used and show great promise in the fields of accident analysis, pilot performance, weather forecasting, etc., as they have in industry for market analysis, quality control and similar statistical applications.

### Principles of Safe Design

The Center has published in the paper "Infusion of Safety Into Aeronautical Engineering Curricula," presented to the Third International Conference of the IAS-RAES, in England, five broad principles of safe design, as follows:

(1) FAIL SAFE. Parts or components of the aircraft, particularly accessories and equipment, should be designed to fail with safety.

(2) RESIST ROUGH HANDLING, IMPACT, ICING, ETC. The structure and its components should be designed to encounter with safety the impact of objects, rough handling by men, and the effects of natural phenomena, which are likely to be met in service.

(3) MEET AVERAGE HUMAN PERFORMANCE. Procedures of adequate maintenance and operating prac-

| | Passenger Miles | Deaths | Rate/100,000,000 Pass. Miles | | |
|---|---|---|---|---|---|
| | 1951 | 1951 | 1951 | 1950 | 1947-49 Avg. |
| Scheduled domestic air transport | 10,700,000,000 | 142 | 1.3 | 1.1 | 1.9 |
| Railroad passenger trains | 34,000,000,000 | 153 | 0.45 | 0.58 | 0.13 |
| Inter-city busses (1950) | 59,000,000,000 | 100 | N.A. | 0.17 | 0.20 |
| Pass. auto and taxi occupants (1950) | 810,000,000,000 | 17,600 | N.A. | 2.2 | 2.2 |

(Source: CAA Statistical Handbook and CAB estimates.)

tices established by the designer should be consistent with the level of human ability, effort and attitude characteristics of a large percentage of those who will utilize the procedures.

(4) WITHSTAND EFFECT OF CARELESSNESS. The aircraft and its components must be protected against the effort of normally inadvertent or uncontrollable human errors or carelessness.

(5) PROTECTION OF OCCUPANTS. Aircraft should be designed to give the occupants reasonable assurance of protection in accidents which are considered to be survivable.

## The Age Question

In the first of a series of articles in *American Aviation,* Dr. Ludwig Lederer, M.D., Ph.D., past president of the Airlines Medical Directors' Association, comments on the question: When Is a Pilot Too Old?

Says questioner Lederer: "We . . . agree to some extent that chronological age and physiological age are not always indentical . . . the criteria of premature aging . . . show very little correlation with ability to safely operate transport aircraft."

"We will not find a willing subject to study for proper retirement age unless adequate financial security has been arranged to take care of him and his needs in the event that the study proves that he should discontinue his present occupation."

"In evaluating the aging pilot, the medical data . . . should **not** always form the sole basis of recommendation for retirement. Steps should be taken by the pilots, the company, or a certification agency to form a retirement board of review very much like the pilot selection boards . . ."

"Retirement age" is a term with very elusive meaning. The figure which pops into most people's minds is somewhere from 50 to 60 years of age. This figure should never be permitted to jell."

## Phonetic Alphabet

The International Federation of Air Line Pilots Associations (IFALPA) has declared unacceptable the new air-ground phonetic alphabet. The alphabet was developed by the International Civil Aviation Organization (ICAO) which is currently seeking to have it adopted by its member nations. The alphabet was put into use in all U. S. Civil Aeronautics Administration ground stations April 1, 1952.

*(Continued on page 14)*

## Press Comment:

"Public confidence is important to aviation. People must trust the airplanes and operating personnel. . . . The aviation industry suffers considerably when this confidence is lacking . . .

"The last crash in New York, a U. S. Airlines C-46 near Idlewild, illustrates one reason for lack of public support. . . . Possible causes of the mishap are numerous: mechanical trouble, instrument failure, pilot fatigue, lack of visual aids, confusing regulations, complicated procedures . . .

"Within 36 hours however, these were the headlines in some New York papers: *Daily News:* HINT PILOT ERROR IN QUEENS CRASH; *Daily Mirror:* CHARGE PILOT IGNORED ORDER; *Herald Tribune:* QUEENS CRASH BLAMED UPON PILOT'S ERROR.

"It is amazing . . . to learn the origin of these headlines. The Director of Public Information, CAB, told newsmen that the pilot had 'apparently not followed instructions' . . .

"This statement does not appear to be true . . .

". . . A verdict of pilot error was brought in almost immediately. Many pilots are wondering now if all subsequent investigations will be aimed at proving this rather than finding the real cause . . .

"Pilot error in itself is the most flimsy of excuses and publicity of this sort is indenfensible. . . . Responsible officials who believe that pilot error is a satisfactory explanation for crashes have no business in aviation."

**—Capt. R. C. Robson in Aviation Week**

". . . The plane caught one wing tip on the crest of a slope, and plunged into a hillside. . . . The plane was a war surplus C-46 Commando. . . .

". . . In Washington, the Civil Aeronautics Administration hastily ordered the plane's operator, North Continent Airlines, to cease operations immediately. They admitted that the operators had been under investigation for a year, charged with a raft of safety violations. With a strange sense of leniency, the civil air authorities had allowed the line to stay in business pending an official hearing . . ."

**—TIME Magazine**

"Noting that the U. S., Great Britain and Canada are now spending well over $50 million per year on some 900 individual research projects, Harry F. Guggenheim, Chairman of the Foundation Committee of the Aviation Safety Center, said, 'We have not applied fast enough the knowledge we already have —and that is primarily due to insufficient funds.' He charged that 'neither the government nor the airlines have been willing to face the facts.' "

**—American Aviation Daily**

"Captain William W. Moss, The Air Line Pilots Assn., urges development of practical terrain-warning device . . . once required but later held to be unreliable.

" 'It appeared to pilots,' Captain Moss reports, 'that more effort went into proving that they wouldn't work than in improving them.' "

**—El Paso Herald-Post**

"The Civil Aeronautics Administration charged . . . that North Continent Airlines required pilot Lewis R. Powell to fly 16 hours out of 24 just prior to the crash of his non-scheduled C-46 airliner that killed 29 persons . . . April 18 . . .

**—United Press**

### HEART FUND DRIVE

- The National Labor Committee of the American Heart Association, of which ALPA President Clarence N. Sayen is a member, has asked for the support of the membership in behalf of its 1952 Heart Fund Drive.
- Heart disease is the greatest single cause of death and disability in our nation today and is of increasing concern to pilots.
- Scientists and researchers who are tracking down the cause of heart diseases in the hope of bringing it under control need support.
- We urge you to contribute to the 1952 Heart Fund Drive.
- You may make contributions payable to The Air Line Pilots Association, 55TH STREET AND CICERO AVENUE, CHICAGO 38, ILL.

IFALPA called the new alphabet "unacceptable and unnecessary," and recommended to member organizations that the former alphabet (Abe, Baker, Charlie) be retained until a satisfactory revision is available.

Advising CAA Administrator Charles F. Horne of the action, ALPA stated: ". . . our membership is being advised that the former alphabet will be retained until a satisfactory revision is available . . ."

Virtually the unanimous opinion among pilots has been that there was not a genuine need for a revision of the phonetic alphabet in use and that very little effort was made to determine whether there was such a need among the user groups.

A letter from IFALPA to ICAO urged "coordination between IFALPA and ICAO in order to avoid similar situations arising in the future."

## PAA-Ex-AOA Seniority Arbitration

The decision of the Board of Arbitration, compiling a seniority list of Pan American and ex-American Overseas Airways pilots, was handed down May 1, 1952. The decision utilizes a formula which gives ⅔ weight to date of employment and ⅓ weight to status. Members of the Board were: Frank Saul for PAA pilots; Emory Martin for ex-AOA pilots; and David L. Cole, Neutral. Frank Saul dissented.

The list was compiled as follows:

The Board took two complete, integrated lists of all ex-AOA and PAA pilots, one showing the positions they would have if straight length of service on AOA—American Export and on PAA was used, and the other if ratio by category was the method followed. It then ascertained the difference between the position of each pilot on the two lists. Having decided that length of service should have the greater weight, it determined one-third of the difference between the numbers on the two lists and modified the position on the length of service list by this one-third. Where the length of service list number was larger, this one-third was subtracted from the length of service number, the one-third adjustment figure was added to the length of service number. The resulting figure was treated as an index number, to be used in sequence with all other index numbers in the series in placing the positions of the ex-AOA pilots on the composite list in relation to the PAA pilots. In cases of identical index numbers, or ties, the preference was given to PAA pilots, because of their greater length of service.

# The Facts Are These

The old saw to the effect that "history repeats itself" must be counterbalanced these days by another saw equally old and equally convincing which informs us that "lightning never strikes twice in the same place." Even lightning cannot move fast enough to keep up with the shifting position of world affairs today and the 300 mile per hour grapevine of the pilots, though stepping up its pace of late, is tremendously overburdened with the "scuttle-but" it must now dispense. In fact, it can hardly keep pace with the events occurring hourly which have tremendous impact on pilots' present and future working conditions. Technology is accomplishing, in fact, what the late Wendell Willkie once wrote a book about—"One World."

Each new invention, each new solution to a problem, whether it be technical, social, or economic, insinuates a dozen new problems into the pilot milieu. Prosaic as a gas shortage caused by striking oil workers may be, the problems promulgated by it are more difficult due to their temporary nature. Should furloughing of pilots resulting from trip cancellation be done in strict order of seniority, starting an endless chain of cutbacks and requalifications, or should the temporary nature of such cutbacks be allowed to alter an iron clad rule? Many serious questions of this nature arise from events occurring entirely outside of ALPA.

On May 3 of this year, British Overseas Airways completed the first scheduled passenger flight in a jet powered Comet. This flight from London to Johannesburg, S. A., a distance of 6,724 miles, was completed in 23 hours and 38 minutes elapsed time with but 17 hours and 16 minutes of actual flight. An average speed of 390 miles per hour in the air but only an average of 285 miles per hour block to block. This is a difference of 37 per cent; thus, the Comet casts dark shadows over future pilot working conditions. Completely outside the boundaries of the United States though it was, this flight corroborates the facts air line pilots are aware of; namely, that the faster the plane the larger the ratio of ground time. It might be further stated that despite the relative low figures of speed quoted above, the Comet actually hit speeds of more than 500 miles per hour during this trip. The British Air Line Pilots Association, in another note from England, informs us that Sabena, a Belgium air line, received over 700 applications from an ad for pilots placed in their journal, the "Log," many of which were from captains and first officers of BEA and BOAC. Thus, pilot pay in one country is influencing pilot conditions in another.

The Brazilian air line pilots, having just passed through a very turbulent period, were recently awarded 20 per cent to 35 per cent retroactive pay increases by the Supreme Labor Court of that country and pay rates of pilots under ALPA contracts were largely influential in this case. Through IFALPA (International Federation of Air Line Pilots Associations), ALPA is sensitively aware of pilot conditions all over the world and instrumental in bettering pilot conditions abroad while at the same time safeguarding their own frontiers.

At the last IFALPA convention, action was taken to impress upon ICAO the importance of coordination between IFALPA and ICAO. Thus, both the fingers and the pies of the air line pilots' world are multiplying. Despite the complicated picture rapidly taking shape and the obvious need that ALPA take a leading part in seemingly distant (but actually and in the long run their own personal) problems, their own field at home has not remained stagnant. Whirlpools of activity everywhere are changing the shoreline of their once quiet little lake. Once almost the sole leader of labor in the air line field, other big financially powerful organizations are gaining beachheads in the field of allied crafts and classes. IAM in particular has gained much headway in this field and TWU and the Railroad Brotherhood too, have made inroads to some extent. It might be said by some that we have our own problems aplenty—this is an alien field—yet serious differences in fundamental philosophy—widely divergent views on policy could ultimately have great impact on pilots everywhere. Each day that passes brings new momentum in the formation of the future pattern of the airline labor field and there is no time more appropriate than now for taking a serious look at what may soon be with us—but good!

—Ronald L. Oakman

## History

At the opening of the Board of Arbitration discussions, PAA pilots urged that the ex-AOA pilots seniority rights be passed upon their length of service with PAA—from September 25, 1950, the date when AOA was taken over by PAA.

The Company suggested that the ex-AOA pilots be integrated into the existing PAA seniority list with full credit for service with AOA and American Export.

The AOA pilots urged that they be interspliced into the seniority list on a ratio by category basis.

## Comment

In commenting on the proposals suggested, the Board stated:

"The straight length of service suggestion by PAA pilots must be rejected. It gives no weight whatever to the status already attained by the AOA pilots, nor any credit for the contribution of equipment routes and jobs made by AOA. . . ."

"The Company's proposal that the AOA pilots be inserted into the PAA seniority list in line with the length of service they had with the American Export—AOA system is also unsatisfactory. Because of the disparity in ages between this operation and that of PAA, it works out that the status of the AOA pilots is given practically no consideration. American Export did not have any flights until July, 1942. . . ."

"The ratio by category proposal . . . also fails to take into account factors which we consider controlling in this problem. It gives weight primarily . . . to the desire to maintain status. It recognizes no value in length of service, and makes no allowance for the benefits or gains which the AOA pilots will have as a consequence of the merger."

**ALPA FCU Financial and Statistical Report of April 30, 1952**

**BALANCE SHEET**

**Assets**

| | April 1952 |
|---|---|
| Loans (561) | $311,881.76 |
| Cash | 58,860.97 |
| U. S. Bonds | 213,660.95 |
| Furniture & Fixtures | 2,084.40 |
| Prepaid Exp. & Misc. | 904.56 |
| Total | $587,392.64 |

**Liabilities**

| | |
|---|---|
| Shares | $567,307.10 |
| Reserve for Bad Loans | 8,786.46 |
| Undivided Profits | 4,421.91 |
| Profit | 6,723.38 |
| Accounts Payable | 153.79 |
| Total | $587,392.64 |

**STATEMENT OF INCOME & EXPENSE (Year to Date 1952)**

**Income**

| | April 1952 |
|---|---|
| Interest on Loans | $ 2,981.86 |
| Investment Income | |
| Other Income | |
| Total | $ 2,981.86 |

**Expenses**

| | |
|---|---|
| Employer's FOAB | $ 39.87 |
| Other Salaries | 851.72 |
| Office Supplies | 340.16 |
| Educational Expense | 1.56 |
| Loan Insurance | (278.42) |
| ALPA Reimbursement | |
| Depreciation | 54.25 |
| Legal & Coll. Exp. | |
| Postage | 38.71 |
| Miscellaneous | 49.10 |
| Total | $ 1,096.95 |
| Net Profit | $ 1,884.91 |

**Satistical Information**

| | April 1952 |
|---|---|
| Number of Members | 2,056 |
| Number of Potential Members | 9,798 |
| Loans Made Since Organization (Number) | 1,717 |
| Loans Made Since Organization (Amount) | $1,121,923.97 |

## Dissent

In dissenting, Board member Saul stated: ". . . Under the PAA Employment agreements of June 16, 1945 and October 14, 1950, it is provided that a pilot's 'seniority shall begin to accrue from the date of employment as a pilot with the Company, and shall continue to accrue during such period of service. . . .'

"The majority takes the position that despite this clear-cut statement, the employment agreements were not designed to apply to situations arising out of the acquisition by PAA of the routes and equipment of another airline. . . ."

"It also seems . . . that the majority has ignored the entire history of seniority in PAA. No group of pilots in PAA has ever been given seniority credit for service outside the PAA system. . . ."

"The record makes it clear that so far as equipment is concerned, PAA had less equipment available for pilot jobs at the end of 1951 than it had prior to the acquisition of AOA. . . ."

"To credit AOA, as the majority does, with subsequent expansion within PAA months after the acquisition, is to assume that but for AOA, PAA would never have expanded its operations."

". . . on the record . . . it is not reasonable to apply to the AOA pilots a rule different from that applied without exception to all other PAA pilots in determining seniority. . . ."

All members of the Board of Directors and officers have received copies of the decision and dissent.

# Memorandum on ICAO

*(Continued from page 7)*

Loran stations, meteorological observation and forecast stations, air traffic control, radio aids and radio communications networks are other joint support schemes arranged by ICAO.

A world-wide examination of existing air navigational facilities has now been launched and thus far has covered eight out of the ten air navigational regions of the world. Furthermore, the study of facilities in two of these, namely, the European-Mediterranean and the North Atlantic, has advanced to the point of formulating a program for providing the facilities found to be indispensable.

The Legal Committee has presently under consideration the legal status of the aircraft commander, a subject in which we are vitally interested.

ICAO is participating in the expanded United Nations technical assistance program and has already received requests from many states. These requests cover the whole range of civil aviation activities including the provision of fellowships designed to aid the training of all types of personnel required in civil aviation; technical advice in the building of airports; the organization of civil aviation administrations and the operations of air transportation; and the providing of experts to conduct training in the requesting countries.

The task facing ICAO is presented very concisely by Dr. Edward Warner, President of the ICAO Council, in the following words:

"In all the immense variety of conditions, the objective must be to maintain the highest possible degree of uniformity of character and quality. The safe and regular movement of aircraft depends upon unbroken perfection in the performance of certain services. It is not sufficient that radio communications be perfectly operated in 90 per cent of the aeronautical ground stations of the world, if the equipment of the remaining 10 per cent is worn out or neglected or inattentively operated. It is not enough that the first nineteen airports at which an international airline has to land should have flawless runways if the flaws in the twentieth are allowed to develop into ruts and potholes. The world's air navigation services ought ideally to be as uniform in character and quality and as well-coordinated in their several parts as they could be if they were all being planned and operated by a single agency; and the drive for a uniformly high standard presents national problems to every government, and international ones as well."

# Friendliest place in town

A friendly handshake greets you at the door

Choir singing brings new spiritual values to the singers, to the hearers

*You're not forgetting, are you, that your church or synagogue is the friendliest place in town?*

*A warm-hearted welcome awaits you there.*

*New interests, new friends, and most precious of all in these trying times, an opportunity to renew your faith, to restore your courage, to find peace of soul in the company of men and women of good will.*

The young-marrieds find congenial friends

Personal council, sympathetic help in time of trouble

The women gather for charitable and social activities

An active athletic and social program keeps teenagers busy and happy

**Take someone to Church this week . . . you'll both be richer for it**

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